CLAIMS:

1. A stent assembly (2), comprising

a stent (4; 50) capable of assuming a contracted and an expanded configuration;

a membrane (6; 58) of a biocompatible material impermeable to molecular transport across the membrane wrapped around said stent (4; 50) more than one full turn;

characterized in that

the membrane (6; 58) is made of a laminated material, comprising at least two layers with different thermal expansion coefficients.

2. The stent assembly as claimed in claim 1, wherein the end portions (8, 10) of the membrane are free relative to each other and to the stent.

3. The stent assembly as claimed in claim 1, wherein the inner end portion (8) of the membrane is attached (9) to the surface of the stent (4).

4. The stent assembly as claimed in claim 1, 2 or 3, wherein the length of said membrane is such that the free ends thereof overlap also when said stent has been allowed to expand.

5. The stent as claimed in any preceding claim, wherein the surfaces of the stent and of the membrane are chemically or biologically modified.

6. The stent assembly as claimed in claim 5, wherein the surface modification comprises immobilisation of heparin on the surface.

7. The stent assembly as claimed in claim 5, wherein one or more of the surfaces on the stent/membrane assembly is provided with a medicament for selective local administration.

8. The stent assembly as claimed in claim 7, wherein the medicaments are selected from immunosuppressive agents and anti-proliferative agents.

9. The stent assembly as claimed in any preceding claim, wherein the outer end (10) of the membrane (6; 58) has a triangular shape (21; 62).

10. The stent assembly as claimed in claim 10, wherein the apex of the triangular end (21) is provided with a tab (32) onto which the thread (20) is attached such that a loop (34) is formed, said loop extending out from the tab (32).

11. The stent assembly as claimed in any preceding claim, wherein the stent is made of a shape memory material.

12. The stent assembly as claimed in any of claims 1-9, wherein the stent is expandable from a contracted state by the force from a balloon provided on a catheter, whereby the stent is provided over said balloon.

13. The stent assembly as claimed in any preceding claim, wherein the end edges of the stent (50) are provided with a plurality of end stop means (52; 54) distributed around the periphery of the edges, for keeping the membrane (58) in position on the stent (50).

14. The stent assembly as claimed in claim 13, wherein the end stop means are formed from the same thread material as the stent is made of, and constitute pins (52) pointing outwardly essentially in the radial direction.

15. The stent assembly as claimed in claim 13, wherein the end stop means are formed as pellet (54) like structures.

16. The stent assembly as claimed in claim 13, wherein the stent is made of a moldable material, and the end stop means are formed during molding of the stent.

17. A device for applying a stent assembly, comprising

a stent assembly (2) as claimed in any of claims 1-11 in a contracted state;

a holding and gripping device (12) comprising

a handle portion (14) and

a support structure (16, 18) for accommodating said stent assembly

a locking loop (20) that can be tightened around the stent assembly when it is positioned on said support structure, and released to allow said stent assembly to expand to a nominal size.

18. The device as claimed in claim 12, wherein said loop is formed by a thread (20) extending through said handle, and protrudes out from said support structure (16, 18) through an aperture (22) in the surface (18) of said support structure.